THE DELAWARE AND HUDSON COMPANY BULLETIN

SEPTEMBER 1, 1926

If We Only Understood

IF WE knew the cares and trials,
Knew the efforts all in vain,
And the bitter disappointment;
Understood the loss and gain—
Would the grim eternal roughness
Seem—I wonder—just the same?
Should we help where now we hinder?
Should we pity where we blame?

Ah! We judge each other harshly,
Knowing not life's hidden force;
Knowing not the fount of action
Is less turbid at its source;
Seeing not amid the evil
All the golden grains of good;
And we'd love each other better
If we only understood.

Could we judge all deeds by motives
That surround each other's lives,
See the naked heart and spirit,
Know what spur the action gives.
Often we should find it better,
Purer than we judge we should,
We should love each other better
If we only understood.

—*Rudyard Kipling.*

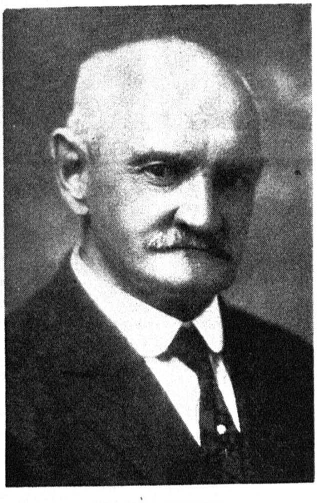
The
DELAWARE AND HUDSON COMPANY
BULLETIN

Vol. 6 Albany, N. Y., September 1, 1926 No. 17

Forsook Trade For Railroad

Veteran Trainman Waived Prospects of a Promising Business Future that He Might Heed the Call of the Rails

TOO big is the story of "The Steam Railroad in America" to be told in an ordinary volume of book-print, or by any one person however well gifted. For that author in particular whose interest in human nature should lead him to write solely of the impulses, or, as some prefer to call it, the fascination, that have won men, and women in more recent years, to the railroad, a task of great magnitude awaits. From every environment the great army of railroad workers has been recruited, not by force but as the result of a willing response to a desire stronger than that influenced by any other profession.



FRANK J. SADLER

We find in our own family circle those who have deserted trades and professions for which they had been especially trained, in order that they might accede to a boyhood longing for railroad life, that had grown stronger and stronger, and more insistent, as the years rolled on. There are those, also, who even quit college courses, or bid adieu to business prospects of more than promising prospects and chose, instead, a career at the throttle of a locomotive or the place of authority in the caboose at the other end of the train.

In the instance of **Frank J. Sadler** of No. 27 Brookside Avenue, Menands, N. Y., we find one such man. Able as he was at an early age to take the place of any one of some one hundred and thirty boot and shoemakers employed by his father, Edwin F. Sadler, who founded and managed until shortly before his death, the Rutland Boot and Shoe Company, located at Merchants' Row and West Street, Rutland, Vt., and with prospects of succeeding his father, he nevertheless turned to the railroad. For forty-one years and seven months, thereafter, he pursued without interruption the fortunes of a trainman until retired on pension on June 27, 1923. Those years were years of pleasure as he now looks back upon them, and he never has regretted his choice.

Added to his boyhood ambition to become a railroad man were stories that came out of the west during the building of the first transcontinental lines. These were not of the purely fictitious variety, but were accounts of actual meetings with the Indians who persistently sought to block the westward advance of the railroad. They were written by an older brother, George, who had worked for Jay

Gould on the Rutland and Washington, but who was then in the employ of the Union Pacific and was an engineer on one of the trains that met at Promontory Point, Utah, on the occasion of the driving of the golden spike in completion of the first line to link up the Pacific Coast with the East. Vividly they related how the Indians with ropes twisted from the bark of trees had attempted to derail his engine and of other experiences equally as thrilling. Never did the younger brother tire of hearing his mother read those letters and with each reading he could see himself balancing his way along over the top of some train or performing some equally miraculous feat peculiar to railroad life.

He had been born at Center Rutland, Vt., November 18, 1856, the youngest and now the only surviving member of a family of four children, two of whom were girls. His boyhood days were spent in school, first in the public school in the village where he lived and later as a student at Sam Kelley's Military school then located at Grove and West Streets, Rutland, and at other times in his father's shoe factory. While he was yet a small boy he acquired a working knowledge of the shoemaker's trade and at the age of eleven made himself a pair of Oxfords which received his father's approval. Later, upon completing his course of study at the private school, the condition of his father's health was such that he entered the factory and worked steadily at the business until he was about twenty-five years of age when he succumbed to what he terms was a "mania" for the railroad.

"I then went to work with Ed Wood, who some years later was killed near Hydeville, as a brakeman," he recalls in telling of the beginning of his railroad career which dates back to September 1, 1881. "We were on the Schenectady freights Nos. 29 and 30, leaving Rutland at 9:15 p. m., and arriving in Schenectady between 4 and 5 a. m., the following morning. We had to go into Schenectady over the New York Central from Karner's, set off our train and then back up and leave our caboose at the roundhouse that stood near the site of the present Union station On the way we would leave cars at Whitehall and pick up others for Troy. These we left at Saratoga Springs. The cars from the north were loaded with iron ore from Port Henry, while the most of those from Rutland contained either marble or lumber. Ed. Crane was our engineer.

"After about a year's running with Wood, he was promoted to a passenger conductor and given a run on the Rutland and Washington, between Rutland and Eagle Bridge, and I went with him. We had a mixed train and left Rutland at 8:45 a. m. At Castleton we picked up cars for Eagle Bridge at which place we made a turn and went to Salem where we stayed all night. The next morning we ran back to Eagle Bridge and from there to Rutland where we arrived about 3 o'clock in the afternoon. Now the same work could be done in about a half a day."

It was while on this job with Wood that he suffered the loss of the second finger of his right hand while trying to save a boy from falling beneath the cars. Infection set in and affected his whole arm to such an extent that for three years he was unable to pursue his work. When he did return, he again went running with Wood in passenger service between Rutland and Whitehall. Then he was made a foreman in the Whitehall yard, under Joshua Whitney, yardmaster. His work was of many varieties from that of drumming the old No. 163 to that of taking the yardmaster's place when necessary.

Then he was on the rounds with Frank Sullivan, conductor; Mike Ryan, engineer; Will Spicer, fireman, and Frank McKenna and Frank Daniels, "hind" and head men respectively. With possibly one exception, that of Spicer, all are now dead.

"One of the best runs I ever had in those days," he recalls, "was when I lived at Whitehall and we would get an extra trip to Port Henry for sifted ore. We would go there 'light' and get about twenty-four low-sides for the Burden Iron Company in Troy. Then we would pull the pencil on the old Dutch clock and, with nothing to stop us, could make a dandy run." Some of his recollections of the old Dutch clocks are most amusing now that *secrets* involving them may be told.

In the years that followed, he worked on various freight and passenger trains according to the requirements of the service, his last run being on trains Nos. 9 and 10 with the late James McLaughlin.

With the exception of the loss of the finger already mentioned, he escaped many thrilling experiences remarkably well. One escape was almost miraculous. "I was working on the 'rounds,'" he explains in recollection of it, "and we had gone to the Barracks at Plattsburg for a train of ore and lumber. 'Doug' Morrow was our engineer and Sullivan, McKenna and Daniels were with us. It was night and we were running south and were just coming out of the rock cut about 200 feet south of the south end of the Cheever trestle, when we saw under the rays of the headlight a rock of ten or eleven tons lying

(Concluded on Page 11)

Automatic Train Control

Theory and Action of Electrical Connections of the Equipment Now In Use on Our Champlain Division Are Herein Explained

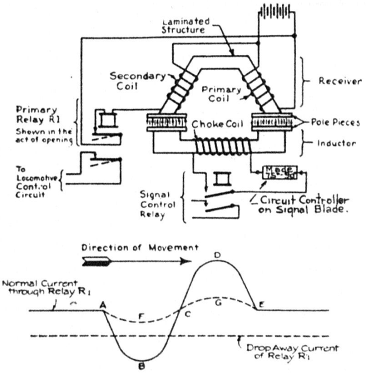
By A. VALLEE, *Supervisor Signal Construction*

(Continued from Last Issue.)

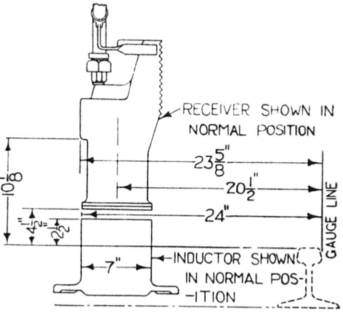
CONTINUING the description of the train control equipment now in use on the Champlain division, which was begun in the last issue of *The Bulletin*, we come to the "Theory and Action of the Electrical Connections."

One of the two coils of the *receiver* is called the "primary" coil and, being constantly energized by current from the electric headlight generator, produces a strong magnetic field. The other, the "secondary" coil, is connected to the same source of energy and in series with the coil and front contact of relay *R-1*, through which a current of about 13 mill-amperes flows normally. All of the inductors are wound, that is they are provided with a choke coil which is automatically controlled through the signal system in such a way that when a speed restricting impulse is to be given the coil is on open circuit and when no impulse is to be given it is closed on itself.

When the *receiver* approaches an *inductor* on open circuit, a surge of magnetic flux builds up in the secondary coil and produces a negative current in the relay as shown by curve *A-B-C* in the accompanying sketch of engine relay *R-1*. This negative current is sufficient to allow the relay to open, and once open, stays open until restored, due to its being a "stick" relay. Current curve *A-B-C-D-E* shows approximately how the normal current through the relay *R-1* would be varied as the result of a receiver passing an inductor on open circuit if this relay were "non-stick," the amplitude of the cycle varying with the speed at which the receiver passes the inductor. It is to be noted that a valuable characteristic of a purely inductive device is, that the certainty and magnitude of the transmitted electrical impulse increases with speed.


Laminated Structure
Secondary Coil
Primary Coil
Receiver
Primary Relay R1
Shown in the act of opening
Choke Coil
Pole Pieces
Inductor
To Locomotive Control Circuit
Signal Control Relay
Circuit Controller on Signal Blade.
Direction of Movement
Normal Current through Relay R1
A
B
C
D
E
F
G
Drop Away Current of Relay R1

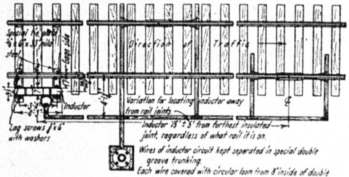
(Top) Circuit showing principles of electromagnetic control between wayside inductor and locomotive receiver. (Bottom) Current curve for engine relay R-1.


RECEIVER SHOWN IN NORMAL POSITION
23 5/8"
20 1/2"
24"
10 1/8"
4 1/2"
2 1/2"
7"
GAUGE LINE
INDUCTOR SHOWN IN NORMAL POS-ITION

Clearance diagram for mounting receivers and inductors

Current curve *A-F-C-G-E* shows approximately how the normal current through relay *R-1* would vary as the result of a receiver passing an inductor on closed circuit which would be the case under proceed signal conditions. The amplitude of the cycle *A-F-C-G-E*, as a result of the effect of the choke coil, is never enough to cause relay *R-1* to open.

The receiver proper is protected by a non-magnetic casing, adjustably mounted in such a way that no springs intervene between it and the axle. The terminals for the receiver windings are made easily accessible for testing and inspecting by the removal of a small cover plate on the side of the receiver housing and the wires leading from the receiver are connected to the locomotive wiring through a plug coupling which facilitates the making of repairs to the locomotive as well as the matter of replacing a receiver.


Special tie plates 5/8" x 6" x 35" mild steel
Gage side
Direction of Traffic
Inductor
Variation for locating inductor away from rail joints
Inductor 75' ± 5' from furthest insulated joint, regardless of what rail it is on.
Lag screws with washers
Wires of inductor circuit kept separated in special double groove trunking.
Each wire covered with circular loom from 8" inside of double groove trunking to terminals in relay box.

Inductor location with reference to insulated rail joints

The inductor, shown in the illustration in the last issue of *The Bulletin*, is protected by a strong, ramp-shaped, non-magnetic housing securely fastened to special tie plates on long wood ties, in such manner as to maintain correct operative relation between the rail and the inductor. The two terminals for the inductor winding are located in a conduit fitting attached to the side of the inductor housing and the connecting wires lead into trunking through separate flexible armored conduits. The trunking for these wires is provided with a double groove to effectually prevent any possibility of the wires coming in contact with one another.

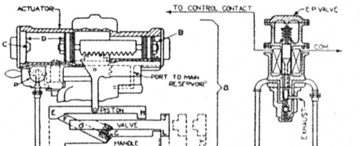
The brake applying apparatus shown diagrammatically elsewhere consists of an electro-pneumatic device called a "brake valve actuator" for operating the engineman's brake valve to the service position. While the actuator can be used with or without a means for limiting the service application to a pre-determined brake pipe pressure reduction, the limiting feature is not used in this installation.

The actuator is placed on the engineman's brake and the circuit to the electro-pneumatic valve is controlled primarily by the engine relay *R-1*, and also in connection with certain other relay contacts which will be described later.

Referring to the diagram of the brake application apparatus, the part marked "piston" is attached to and operated by the piston of the actuating cylinder. The part marked "valve" is connected to the "rotary" of the brake valve. The part marked "handle" is connected to and moves with the brake valve handle.

Under all conditions, air direct from the main reservoir is supplied to the cylinder *B* which is the smaller of the two cylinders of the actuator When the *EP* valve (electro-pneumatic) is energized, air is supplied from the same source through the air strainer *N*, the *EP* valve, the double heading cock *Q*, and the cut-out cock *P* to cylinder *D*, the larger of the two cylinders of the actuator. The piston is, therefore, shifted to the extreme left hand position as indicated in that part of the diagram shown within the bracket *a*. Under these conditions the actuator is entirely disconnected from the brake valve handle so that the engineman has the same control of the brake valve that he would have if the actuator were not installed.

When the *EP* valve is de-energized, air is exhausted from the cylinder *D* which allows the air in cylinder *B* to move the actuator piston to the left until it comes against stop *C*. During the first part of this movement, the cam shaft *E* on the piston, being moved to the right, comes in contact with the latch *FG* which is attached to the valve, lifting the portion *G* out of engagement with the handle. During the rest of the movement, the lug *H* on the piston is in contact with the projection *J* on the valve so that the valve is moved to the right to the service position as indicated in that part of the diagram included within the bracket *b*. In this position, it will be noted that the handle is disconnected from the valve in such manner that the valve cannot be moved by the handle toward the left or release position. The valve can, however, be moved to the right or emergency position. The engineman can, therefore, make an emergency application at



Operating diagram of brake application apparatus

(Concluded on Page 14)

Refutes Stephenson Claims

Son Tells of Father's Conclusions Relative to Gradients and Road Steam-Carriages, and of His First Venture in the Manufacture of Locomotives

(Continued from Last Issue.)

THE following were the principal arguments which influenced my father to work out the use of the locomotive in a directly opposite course to that pursued by a number of ingenious inventors, who between 1820 and 1836 were engaged in attempting to apply steam-power to turn-pike roads. Having ascertained that resistance might be taken as represented by ten pounds to a ton weight on a level railway, it became obvious to him that so small a rise as 1 in 100 would diminish the useful effort of a locomotive by upwards of 50 per cent.

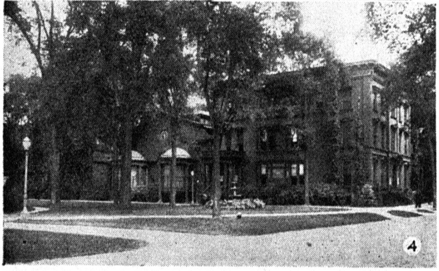
"This fact called my father's attention to the question of gradients in future locomotive lines. He then became convinced of the vital importance, in an economical point of view, of reducing the country through which a railway was intended to pass, to as near a level as possible. This originated in his mind the distinctive character of railway works as contradistinguished from all other roads,—for in railroads he early contended that large sums would be wisely expended in perforating barriers of hills with long tunnels, and in raising low ground with the excess cut down from the adjacent hill ground. In proportion as these views fixed themselves upon his mind, and were corroborated by his daily experience, he became more and more convinced of the hopefulness of applying steam locomotion to common roads,—for every argument in favour of a level railway was an argument against the rough and hilly course of a common road.

"He never ceased to urge upon the patrons of road steam-carriages that if by any amount of ingenuity an engine could be made which could by possibility traverse a turn-pike road at a speed at least equal to that obtainable by horse-power and at a less cost, such an engine if applied to the more perfect surface of a railway would have its efficiency enormously enhanced. For instance, he calculated that if an engine had been constructed, and had been found to travel uniformly between London and Birmingham at an average speed of ten miles an hour,—conveying say twenty or thirty passengers at a cost of 1s. per mile, it was clear that the same engine if applied to a railway, instead of conveying twenty or thirty people, would have conveyed 200 or 300 people, and instead of a speed of ten or twelve miles an hour, a speed of at least thirty to forty miles an hour would have been obtained. It is difficult now to understand how it was that this obvious inference never occurred to the minds of those who so long persisted in vain attempts to apply locomotive power to turn-pike roads.

"Identified as my father at this period had become with every step made towards increased utility in the locomotive engine, he did not allow his enthusiasm to carry him away into costly mistakes. He most carefully drew a broad line between those cases in which the locomotive could be advantageously employed, and those in which stationary engines were more economical. This led him, when called upon to execute railways over rough countries where gradients within the compass of the locomotive engine could not be obtained, to apply stationary engines most extensively. Many instances of the successful application of this mixed power endure to this day in the north of England. The railway from the Hetton Colliery to Sunderland was perhaps the earliest and most remarkable work in which these two powers were most successfully combined. The Stockton and Darlington Railway is another instance where they were combined with most success and efficiency, and although subsequently the application of stationary power on that line was partially superseded by tunnelling and locomotive power, the change has only been justified by the traffic having become so enormous, that a uniform and uninterrupted system was alone applicable—the stationary engine system being one that is limited by the necessity of reciprocating the trains over a short piece of railway at limited intervals.

"In 1820 my father established in conjunction with two friends of capital a manufactory of locomotive engines at Newcastle-upon-Tyne. Before the opening of that establishment all the locomotive engines which he had constructed had been made by ordinary mechanics, working amongst

(Continued on Page 13)



Ho, For T

Where the Spring Waters Flow and Are
Saratoga's the Place Where
Wednesday, Septem

SARATOGA SPRINGS, landmark in Americ
resorts, bids the members of The Delaware
for their fifth annual outing announced for
pervaded streets and parks and has charmed the
lands, throughout the summer, the Veterans and
themselves in such a way as to feel deeply indebte
made the many other arrangements for their enter
eration that many hundreds—yes, many thousands
the world each year, surely no veteran of the road
since 1832, can excuse himself or herself the un
tinctive, in company with those with whom they
active years.

No more central location could have been sele
a better reunion in that it affords the members
who all summer long have been handling the hea
and greet their brother members from other divisi
This, too, applies to the date, for an earlier outin
would virtually preclude their attendance, also.

And again, the selection of the United States
reach of the station, thereby eliminating an additio
tion of the train journey. It will be found, too, th
satisfactory for the hotel possesses the necessary
who may make reservation. Dinner will be served
consist of a chicken menu. The additional charge
years, will be considered most reasonable in view

The Spa, a formidable rival of famous Europ
of its great variety of health-giving waters which
200 to 650 feet. In this one respect alone it sur
offers its patrons more than one water. In 190
springs, wells and bores, and included them in
guarding them from commercial exploitation and
the public for generations to come. Under its s
springs have been kept flowing for either drinkin
have been filled in or tapped off by way of conser

These waters vary from a highly mineralized
of carbon dioxide gas to milder alkaline waters
volumes of gas. They are used in various ways f
for table purposes.

In High Rock park, at the northern extremi
spring, which was known to the Indians. It has
center of interest.

Geyser park, however, is the largest of the th
of 250 acres. It beggars a rival for natural scen
spouter springs. Here are to be found the Hayes,
are liberally patronized.

Lincoln park, where are located the Lincoln
and is connected with Geyser park by an "Avenue

or The Spa!

and Are Good for Your Ills or Your Thirst,
ce Where the Veterans Go, on
y, September the First

in American history and peer of America's health
Delaware and Hudson Veterans' Association thither
nounced for today. Amid the same beauty that has
armed the wealth of our country, and that of other
erans and their sweethearts of a life-time will enjoy
ply indebted to the committee that chose the Spa and
their entertainment. When it is taken into consid-
thousands—of people gather there from all parts of
of the road that has been serving this historic resort
elf the unusual pleasure of visiting a place so dis-
whom they have worked for the better part of their

e been selected. Its choice, therefore, makes possible
members on the Saratoga and Champlain divisions,
ng the heavy tourist travel, an opportunity to meet
other divisions that otherwise might be denied them.
arlier outing, following the precedent of other years,
nce, also.

ited States hotel was wisely made. It is within easy
an additional auto or street car ride at the termina-
und, too, that the dinner arrangements will be wholly
necessary dining room facilities to care for all those
be served at 12:30 p. m., at $1.75 per plate, and will
nal charge of twenty-five cents over the price of other
le in view of the better service to be enjoyed.

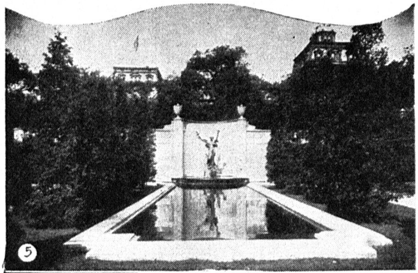
mous European watering places, boasts in particular
aters which spring from solid rock at depths of from
alone it surpasses its European rivals none of which
r. In 1909, the State of New York acquired these
them in its reservation of 700 acres, thereby safe-
tation and preserving them for the exclusive use of
Under its scientific management twenty-four of these
her drinking or bathing purposes and the remainder
y of conservation.

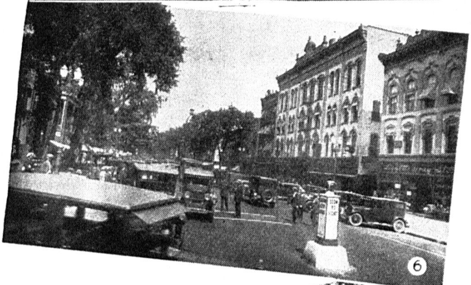
mineralized saline content and two or three volumes
he waters of less saline content and from one to two
ous ways for the cure of aggravating bodily ills and

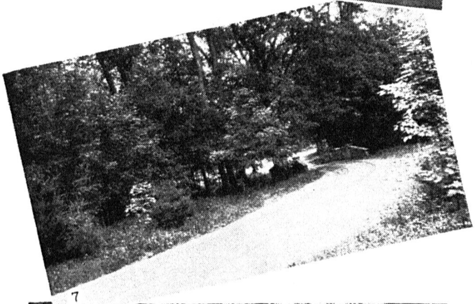
ern extremity of the city, is the famous High Rock
ns. It has long been extinct, but its cone remains a

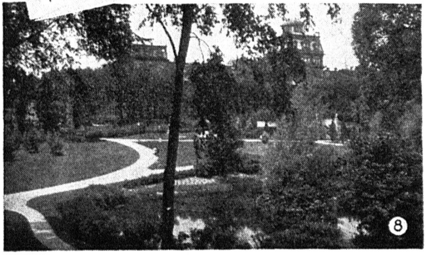
st of the three parks in the State reservation, and is
atural scenic beauty, pleasant walks and drives and
he Hayes, Orenda and Karista springs, all of which

he Lincoln and Washington baths, is of sixty acres
n "Avenue of Pines," lined on each side with double









rows of white pine trees for its entire length of one mile.

Congress park, near the United States hotel, is owned and maintained by the City of Saratoga Springs, with the exception of the Sunken Garden and the grounds surrounding Congress spring, which belong to the State reservation. This is one of the Spa's oldest and best known landmarks and is of wonderful scenic development. Artistic lakes, streams and cascades; "The Spirit of Life," a beautiful memorial by Daniel Chester, French sculptor, erected to the memory of Spencer Trask; and the "Lady of Yadda," a memorial gateway raised by the employes of Katrina Trask Peabody, the Italian Gardens, and the many walks and drives are the outstanding features of this most wonderful study upon which the city has spent no less than a half million dollars.

Nearby is the famous Canfield Casino where once fortunes were won or lost on the turn of the dice, roulette wheel or playing card. It now belongs to the city and is used as a civic center. Its great rooms still hark of the luxury and wealth to which they were once accustomed, and are a revelation to the visitor. The upper floor is being converted into a museum and there is to be found a large collection of Indian missiles and other relics, and many unusual examples of antique furniture and rare books.

Saratoga Springs, with a normal population of 13,834, has a commission charter and is governed by five commissioners and a city judge. It was incorporated as a village on April 17, 1826 and as a city on April 7, 1915. Clarence H. Knapp is its mayor and commissioner of public affairs.

As a center of wealth and fashion, it is well equipped to cater to the needs of its guests. It has two banks, the Adirondack Trust Company with a capital of $1,075,000 and the Saratoga National Bank with a capital of $300,000, and an active Chamber of Commerce, Lion's club and Rotary club. Its military and fraternal bodies include all the prominent orders of the present day, while of religious societies it has no less than sixteen. Here too is located the Skidmore College for Girls with an attendance of nearly 500. St. Clement's college, St. Faith's School for Girls and St. Peter's Parochial school. The city's school system proper comprises a high school and five grade schools.

Although of outstanding social prominence its industrial activities are not a small part of its life. Foremost among its manufacturers are the Baker Manufacturing Company doing foundry and machine work; the G. F. Harvey Manufacturing Company, manufacturing chemists; the Decorative Company, a wall paper concern, and the Saratoga Wall Paper Company, the Clark Silk Glove Company and the Van Raalt Silk Underwear and Textile Mills, and others.

The city has long been a convention center, also, and Convention Hall, where one political party or another has met in years past, is a point of interest on Broadway. Its capacity is 5,000 people and it is considered one of the best equipped buildings of its kind in the country. So far this season it has accommodated ten conventions and still has one to come.

Numerous private clubs provide facilities for golf and tennis, and other recreation sought by those who exact exclusive environments. These are well supported and are a most valuable asset to the Spa's other attractions, foremost among which is the track of the Saratoga Association for the Improvement of the Breed of Horses where meets of international interest are held during the month of August, each year.

Already, the members of the Association have received the schedules of the special trains provided by the Management and other information concerning the outing. Good weather alone remains to make the day a memorable one, and should it rain the lobby and veranda of the United States hotel will easily accommodate all and afford an excellent meeting place.

* * *

Key to Photographs on Pages 8 and 9

1. The United States Hotel where the Veterans will dine.
2. A park scene.
3. Hathorn spring.
4. The Casino.
5. The "Spirit of Life."
6. Broadway.
7. A drive in Geyser park.
8. Across Congress park.

"*Rides like an all-steel train,*" advertises a leading automobile manufacturing concern in boosting its product. The superiority of railway travel cannot be denied appreciative recognition, even in the automobile world, it seems.

Conductor: "Change for Marietta! Change for Marietta!"

Hick Passenger: "Don't know who the girl is, but I'll chip in a dime."

Century of Service

ONE hundred years of service will be completed by The Champlain Transportation Company, operating a subsidiary Delaware and Hudson steamboat line on Lake Champlain, on October 26, next, it having been chartered by the Vermont legislature on October 26, 1826, to transport, by aid of towboats or otherwise, passengers, merchandise, articles and things usually transported by water. For more than seventy of its one hundred years, the Company has been without an active competitor.

Not alone is the Management proud of its unique record, but also of the fact that it is without exception the oldest steamboat company in the world and that it has in its employ the oldest licensed captain in the world, Ell B. Rockwell, who, in his ninety-sixth year, is again this season in command of the Steamer Vermont. He has sailed the waters of Lake Champlain in the employ of the Company every year since he was twelve years of age. In 1855 he was granted a pilot's license and in 1881 became a captain.

The Company's fleet comprises the Steamer Vermont, equipped with state rooms and having a capacity of 1,000 persons, which runs between Plattsburgh and Montcalm Landing, making several intermediate stops en route; the Steamer Ticonderoga with a licensed capacity of 1,043 persons, which operates between Burlington, Vt., and Port Kent and Plattsburg, N. Y.; the Chateaugay, a passenger and automobile ferry, with a licensed capacity of 600 people and 50 cars, which maintains a summer schedule between Burlington, Vt., and Plattsburg, and a small harbor tender.

That its one hundredth anniversary may properly be commemorated, a celebration is being planned for Tuesday, September 14. This is a little more than a month earlier than the actual anniversary date, but has been chosen to conform to the summer schedule which closes for the larger boats on Saturday, September 11.

Pensions Granted

Pension allowances have recently been granted by the Board of Managers in favor of **JAMES L. LINDSAY**, No. 610 Park Street, Honesdale, Pa., locomotive engineer on the Pennsylvania division, and **ANDREW B. HOTALING**, No. 38 High Street, Oneonta, N. Y., locomotive engineer on the Susquehanna divsion.

Forsook Trade for Railroad

(Continued from Page 4)

between the rails ahead. I had gone up to the engine to show the head man, who was new to the service, how to let a train down the hill and we were still in the cab when the engine hit the rock and turned over into Lake Champlain. The rock wedged between the middle and rear drivers and kept the engine from being entirely submerged. As it turned over I climbed through a window and pulled myself up on top of the engine cab. The engineer had jumped when he saw he could not avert a collision, and the head man also saved himself, so no lives were lost.

"I had another experience much similar to this, although I did not come quite so near to taking a swim. With Cy Hurtibus and the No. 89 we were coming into Whitehall from Rutland, when we hit two cows on the first span of the bridge over Wood creek. I was standing on the first car back of the engine and jumped as the engine and six cars left the bridge.

"At another time, while I was working as a pin puller in the Whitehall yard I fell between the tracks where I was compelled to remain while seven cars passed over me. **MARTIN GULLY**, the engineer, well remembers this and the fright he experienced."

He likes nothing better than to recall his experiences on the road. An unfortunate incident, although somewhat amusing, occurred during the time he was in the Whitehall yard. Andy Matthews, a pin puller, was singing, as he was accustomed to, on one occasion when going into the Cook track. His song was that of "I see the moon, and the moon sees me," and so on. Evidently he was also star-gazing, for one hand was resting so that its fingers over-reached the end of one of the "dead woods" and were caught and severed when the engine hit a low-side gondola. Ever after that, Matthews' companions were wont to chide him with the words of the song that led to his injury.

Mrs. Sadler, before their marriage, was Miss Nettie M. Mason of Glens Falls. They have one daughter, Mrs. Charles S. Northrup, who, with her husband, resides with them. He is a member of the Brotherhood of Railroad Trainmen, D. F. Wait lodge No. 296 of Whitehall, and of St. Margaret's Episcopal church of Menands.

Miss Cora was taking her first trip on the train. The conductor came through and called for the tickets. Cora readily gave up her ticket. A few minutes later the newsboy came through, calling "Chewing gum!"

"Never," cried Cora, bravely. "You can take my ticket, but not my chewing gum."—*Choo Choo.*

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Humility is the base of every virtue,
And they who dig the deepest build the safest.
God keeps all His pity for the proud.
—BAILEY.

The Greatest Calling

(Quoting an editorial that appeared in the August issue of *The Frisco Employes' Magazine*)

A FAMOUS man stood on the outskirts of a large crowd of veterans at the Frisco Veteran Employes' Association picnic and barbeque at Springfield, June 28. There was a reminiscent look on his face, for he was a former railroad man. The measure of success he has won in another field has made him a national figure. His name is on the front pages of newspapers. But this man was musing of other days and there was regret in his voice as he said:

"This is wonderful. I have attended two Frisco reunions now, and they have left a twinge of regret with me that I deserted the railroad game. I don't know of a profession or a calling that gives so great a satisfaction to the man in the harness as railroading. I don't know of a more exalted calling than railroading—that work of transporting persons to all parts of the world, of hauling in swift, silent efficiency long trains of freight for the nation's need.

"These veterans have lived life to the fullest. They may not have wealth in the sense that we commonly mean it, but they possess treasures undreamed of by men who have rounded out their lives in other callings.

"Two retired passenger engineers here today have said to me, 'I never had an accident.' A conductor, retired but with clear eye and steady hand, told me 'I never missed an order.' There are many others in various departments of your railroad who are making similar records today as the years carry them on toward the time of pension and retirement.

"What a satisfaction that must be! What a feeling it must give a man as he steps calmly onto the pension roll to know that he has given twenty-five, thirty, forty or fifty years to a service which deals in the safe transportation of human life, without sacrificing one person to the altar of carelessness or mishap.

"The people of your railroad are honoring these veterans here today but I tell you there is not honor enough for these grand old timers.

"We all don't realize enough, that men have toiled, sweated, and even died, that these great American railroads of today are what they are.

"And it is to these veterans here today, many of whom can remember those infantile, short-pants days of railroading that seem so far away to us, that a great part of this glory goes.

"I am an enthusiast for the Frisco Veteran Employes' Association * * * and I know that railroading is the greatest game in the world—the most exalted calling to which man can aspire."

Railway Investments the Best

WHILE fully recognizing that much more than money returns must be reckoned with when discussing the wisest expenditure of capital, one is justified in calling attention to a statement made recently, according to the *Railway Review*, by Herbert Hoover, United States Secretary of Commerce. Here is the substance of it: People talk glibly of giving billions of credit to foreign countries to increase the farm exports of the United States, *but a billion dollars spent upon American railways will give more employment to the people of the country, more advance to its industry, more assistance to its farmers, than twice that sum expended outside the frontiers of the United States*—and there would be greater security for the investor. This statement is put out with Mr. Hoover assuming "full responsibility" for it. And it certainly gives the reader something to think about.

"My father was a great track man in his day."
"Runner, eh?"
"No, walker."—*Ohio State Sun Dial.*

Refutes Stephenson Claims

(Continued from Page 7)

the collieries in the north of England. But my father felt that the accuracy and style of their workmanship admitted of great improvement.

"One great object that he had in view in establishing this factory, was to concentrate a number of good workmen for the purpose of realizing and carrying out the improvements in detail which he was constantly making. This was the only manufactory at which locomotive engines were made until after the opening of the Liverpool and Manchester Railway in 1831. After that great event other mechanics began to devote their attention as a matter of regular business to the construction of locomotive engines for railway purposes. At the Newcastle factory all the engines that were employed upon the Stockton and Darlington Railway were made; and for some time after the Liverpool and Manchester Railway was opened this establishment alone supplied the engines for working the traffic between those two important commercial towns.

"The writer of an article on 'Railways,' which appeared in the 'Edinburgh Review' in 1832, founded a charge of monopoly in favour of the Newcastle factory, against the Liverpool and Manchester directors, upon the fact that all the engines on the Liverpool and Manchester Railway were made after my father's plans, and in his factory; the simple truth being that that was the only source at that period from which efficient engines could be obtained. The directors were fully alive to the importance of inducing competition in this new kind of manufacture. They offered every inducement with a view to extending the field from which they could draw their supplies of engines, and as soon as they could rely upon the quality of the article supplied they distributed their orders indiscriminately.

"Since the opening of the Liverpool and Manchester Railway, works for the manufacture of engines have gradually extended themselves into every part of Great Britain, the continent of Europe, and the United States of America. But the main object of my father in establishing the Newcastle Works was to educate a class of workmen in skilled labour, who should be able to execute the many ideas which presented themselves to his inventive and practical mind.

"After the opening of the Stockton and Darlington, and before that of the Liverpool and Manchester, my father directed his attention to various methods of increasing the evaporative power of the boiler of the locomotive engine. Amongst other attempts he introduced tubes (as had been done before in other engines)—small tubes containing water, by which the heating surface was materially increased. Two engines with such tubes were constructed for the St. Etienne Railway in France, which was in process of construction in the year 1828; but the expedient was not successful—the tubes became furred with deposit and burned out.

"Other engines with boilers of a variety of construction were made, all having in view the increase of the heating surface, as it then became obvious to my father that the speed of the engine could not be increased without increasing the evaporative power of the boiler. Increase of surface was in some cases obtained by inserting two tubes, each containing a separate fire, into the boiler, but it was not until my father was engaged in making some experiments during the progress of the Liverpool and Manchester Railway in conjunction with Mr. Henry Booth, the well known secretary of that line, that the present multitubular boiler assumed a practicable shape. It was in conjunction with Mr. Booth that my father constructed the "Rocket" engine which obtained the prize at the celebrated competition which took place a little prior to the opening of the Liverpool and Manchester Railway.

"At this stage of the locomotive engine we have in the multitubular boiler the only important principle of construction introduced, in addition to those which my father had brought to bear at a very early stage (between 1815 and 1821) on the Killingworth Colliery Railway. In the "Rocket" engine the power of generating steam was prodigiously increased by the multitubular system. Its efficiency was further augmented by narrowing the orifice by which the waste steam escaped into the chimney; for by this means the velocity of the air in the chimney, in other words the draught of the fire, was increased to an extent that surpassed the expectations even of those who had been the authors of the combination.

"From the date of running the 'Rocket' on the Liverpool and Manchester Railway, the locomotive engine has received many minor improvements in detail and especially in accuracy of workmanship, but in no essential particular does the existing engine differ from that which obtained the prize at the celebrated competition at Rainhill.

"In this instance as in every other important step in science or art, various claimants have arisen for the merit of having suggested the multitubular boiler as a means of obtaining the necessary heating surface. Whatever may be the value of their respective claims, the public, useful and extensive application of it must certainly bear date from the experiments made at Rainhill. M. Seguin, for whom engines had been made by my father some few years previously, states that he patented a similar multitubular boiler in France some years before. A still prior claim is made by Mr. Stevens of New York, who was all but a rival of Fulton in the introduction of steamboats on the American rivers. It is stated that so early as 1807 he used the multitubular boiler. These claimants may all be entitled to great and independent merit, but certain it is, that the perfect establishment of the success of the multitubular boiler is more immediately owing to the suggestion of Mr. Henry Booth, the Secretary to the Liverpool and Manchester Railway, and to my father's practical knowledge in carrying it out."

(The End.)

Automatic Train Control

(Continued from Page 6)

any time, but he cannot again move the brake valve until the *EP* valve is re-energized by a reset. This cannot be made until the train has been brought to a stop, as will be explained later.

In order to regain control of the brake valve after it has been moved to the service position by the actuator as already explained, the *EP* valve must first be re-energized by the operation of the reset contactor. This allows air to flow again into cylinder *D* of the actuator which moves the piston back to its original position as shown in that part of the diagram included within the bracket *c*.

The engineer then places the brake valve handle in the full service position which permits latch *FG* of the valve to engage the handle after which he has regained control of the valve and may release. It is therefore noted that the service application made by the actuator is entirely automatic, whereas the release from this application is a manual operation.

The double-heading cock *Q* consists of two separate cocks operated by the same handle which, in addition to its regular function, by-passes air around the *EP* valve when operated to the cut-out position. The cut-out cock *P* is included as a part of the actuator and is normally sealed in the cut-in position. In case it becomes necessary to cut out train control for any reason, this cock may be operated by breaking a seal and turning the handle to the cut-out position. This simply admits air from the main reservoir into cylinder *D* and closes the air connection to the *EP* valve. A small indicator is provided on the actuator so that the engineman may know, at a glance, the position of the brake valve.

In a succeeding chapter wayside control and locomotive circuits, and their operation, will be explained.

Agents Meet At Plattsburg

PLATTSBURGH was host to the members of The Delaware and Hudson Freight and Ticket Agents' Association on Friday, July 16, when they met there for their regular quarterly meeting which was held in the City hall at 1 p. m. The attendance included practically the entire membership on the Champlain division and was considered exceptionally good considering the distance involved for those living south of Plattsburgh, particularly those on the Pennsylvania division. President Edward Martin of Cooperstown, presided.

G. D. Hughey, division superintendent, welcomed the members to his division in a very friendly way and the welcome to the city was most cordially extended by its mayor, William E. Cross. Nowhere, perhaps, have the agents been greeted in quite the same hearty manner as was evidenced by Mayor Cross who virtually placed himself at their command in order that they might enjoy their stay in Plattsburgh. H. A. Jerry, vice-president of the local Rotary Club, another speaker, also entertained the members in a very cordial and profitable manner.

The usual order of business thereafter was pursued and this over, adjournment was taken following which a sight-seeing trip was provided through the courtesy of those who owned cars and at its conclusion all had dinner together.

The arrangements for the meeting, which were most satisfactory, were in charge of F. Daly, freight agent at Plattsburgh, who enjoyed the cooperation of H. A. Otis, division agent, and W. W. Cooper, agent at Rouses Point.

In the item "Insurance Date Extended," which appeared on page fourteen of the last issue of The Bulletin, a typographical error made the date 1917, whereas it should have read: July 2, 1927.

Clicks from the Rails

Crossing Accidents Unnecessary

Like most accidents those at grade crossings could be avoided. A railroad train can only come on its tracks and in one of two directions. A stop and a look make accidents impossible. Mounting crossing accidents are a case where the remedy is plain but the cure seemingly unattainable. Since so many refuse to "cross crossings cautiously" there must be some reason. Surely mankind values life highly. The reason must be that man in his headlong haste to get somewhere prizes his time more highly than his life. Or is it an eternally springing hope that convinces every human that harm cannot come to him? And those who harbor such hopes are said to be reasoning animals!—*Sandusky* (Ohio) *Register.*

* * *

Iceless Refrigerator Cars

Five iceless refrigerator cars were recently placed in service by the Chicago, North Shore and Milwaukee railroad. They are equipped with refrigerator machinery, including ammonia compressors driven by a noiseless electric motor. Tests have demonstrated that the entire lading of any car so equipped may be frozen, if desired, and that it is possible to maintain a temperature of from 40 to 42 degrees at all times.

* * *

Completes Handsome Terminal

The Illinois Central has recently completed at Baton Rouge, La., one of the most attractive and adequate passenger and freight terminals in the south, serving a city of the size of Baton Rouge which has a population of approximately 35,000. The cost of this improvement was somewhat more than a million dollars.

* * *

First Engine West of the Hudson

It is said that the first steam engine erected west of the Hudson River was used at a copper mine at New Barbados (Hudson County), New Jersey. It was a Newcomen engine, and, according to Benjamin Franklin, cost one thousand pounds. It was in use in 1755 and destroyed at the beginning of the Revolutionary War.

Effective Police Protection

"The Police departments of the various railroads of the United States," R. H. Aishton, president of the American Railway Association, told members of the Freight Claim division at Norfolk, Va., on June 13, last, "have done remarkably good work in the reduction of loss and damage claims. Despite reports of a crime wave in the United States, loss from theft and robbery of freight shipments in 1923, were the lowest on record, amounting to $1,492,451 compared with $12,875,000 in 1920. The elimination of delays, keeping freight moving, the efficiency and cooperation of the Police departments themselves, better packing and crating of freight and a number of other factors enter into this reduction of freight claims and are entitled to their share of the credit."

* * *

Railway Travel Grows Safer

One railroad employe was killed in an industrial railroad accident in 1917 for every 9,120,000 man hours of work, and in 1924 there was but one for every 15,550,000 man hours. A similar notable improvement in respect to injuries also is noted. In 1917, one employe was injured for every 28,000 man hours of work, while in 1924 the ratio was one to every 48,000 man hours.

The safety with which passengers travel our railroads also is constantly improving to the extent that in 1924, 11,250,000 locomotive miles were run for every passenger killed and 287,000 for every one injured. Back in 1914 one passenger was killed for every 6,620,000 locomotive miles and one injured for every 116,000 miles.

* * *

No Financial Advice For Him

Voice of the telephone operator: "I have your party. Deposit five cents, please."

Souse at Pay Station: "Whatzzat?"

Operator: "Please deposit your money."

Souse: "Listen, girlie, wat I wan's a co-versashun from a fren', not financial advice from a stranger."—*New York Journal of Commerce.*

Another Auto Driver Pays

The Louisiana Lines of the Southern Pacific recently obtained a court verdict at De Ridder, La., awarding the company $4,634 damages to property, engine, cars and freight caused by a collision between one of its freight trains and an automobile at a grade crossing. The driver of the automobile was adjudged at fault and the court found that the owner of the car and minor daughter driver, were negligent and that this was the sole cause of the accident, as the railroad and its employes had complied with all the laws, the crossing was not obscured, and the train crew could have done nothing to prevent the collision. One person was killed and one injured.

* * *

Injustice to Railroads

To get damages from a railroad company under any pretense whatsoever seems to be one of the favorite pastimes of the day. An employe of the Chicago and Northwestern, employed in the roundhouse at Chadron, Neb., was bitten by a snake while at work. He sued for $65,000 and received $40,000, it is reported.

* * *

The Backbone of the Nation

"American railroads are the backbone of the nation. More than that, they are the veins and the nerves and the muscles without which industry and business would stand still, millions would be jobless, other millions would be hungry and manufacturing and other promotive enterprises would cease their progress."—*Cleveland (O.) Times.*

* * *

Employing Wind Power

Wind power is employed by the Great Northern in the prairie country of Montana and North Dakota, for charging storage batteries used in the operation of block signals. By harnessing the wind electrical energy may be stored in batteries to be used as needed.

* * *

It is a wise man who knows his own business; and it is a wiser man who thoroughly attends to it.—H. L. WAYLAND.

Be a Star!

HOW GLOOMY the day seems when the clouds cover the sky, and how dark the night when the stars are hidden by black clouds! If you happen to be out on such a night of darkness, you know how you welcome the appearance of just one star.

In a poem, it says: "Be a star in somebody's sky." The faces 'round about us in life, at home, at school, at work, form a sky at which we must look all the time. How glad we are when we see one of those faces smiling, how good it makes us feel, and how soon we find ourselves with the same kind of smile! So we should remember that we may be such a star of brightness for those with whom we live and work each day.

— *Selected.*